

undertook to purchase and install a new mobile radio communications system from Motorola.

7.

Southern Communications is a corporation organized and existing under the laws of the State of Delaware, with offices in Atlanta, Georgia. Southern Communications, a wholly owned subsidiary of The Southern Company, was formed to develop, implement, and operate the mobile radio communications system purchased by Southern Services from Motorola.

8.

Alabama Power Company is a corporation organized and existing under the laws of the State of Alabama. Alabama Power Company is a wholly-owned subsidiary of The Southern Company and is an electric utility engaged in the generation, transmission, and distribution of electric energy in the State of Alabama and in interstate commerce.

9.

Georgia Power Company is a corporation organized and existing under the laws of the State of Georgia. Georgia Power Company is a wholly-owned subsidiary of The Southern Company and is an electric utility engaged in the generation, transmission, and distribution of electric energy in the State of Georgia and in interstate commerce.

10.

Gulf Power Company is a corporation organized and existing under the laws of the State of Maine. Gulf Power Company is a wholly-owned subsidiary of The Southern Company and is an electric utility engaged in the generation, transmission, and distribution of electric energy in the State of Florida and in interstate commerce.

11.

Mississippi Power Company is a corporation organized and existing under the laws of the State of Mississippi. Mississippi Power Company is a wholly-owned subsidiary of The Southern Company and is an electric utility engaged in the generation, transmission, and distribution of electric energy in the State of Mississippi and in interstate commerce.

12.

Savannah Electric and Power Company is a corporation organized and existing under the laws of the State of Georgia. Savannah Electric and Power Company is a wholly-owned subsidiary of The Southern Company and is an electric utility engaged in the generation, transmission, and distribution of electric energy in the State of Georgia.

13.

Motorola is a corporation organized and existing under the laws of the State of Delaware, with its principal office in Schaumburg, Illinois. Motorola is engaged in the business, among

others, of providing mobile radio communications system equipment and services throughout the United States.

14.

Motorola's activities, including its activities related to mobile radio communications system equipment and services, are within the flow of, and substantially affect, interstate commerce.

FACTUAL BACKGROUND

A. The Mobile Radio Industry

15.

Mobile radio dispatch service is used for quick and reliable communications by operators of vehicle fleets, such as taxis, contractors, utility companies, service companies, delivery services, and government and public safety organizations, to communicate with and within those fleets either on a one-to-one or one-to-many basis. Dispatch communications, unlike telephone conversations, are typically frequent in number and short in duration. For example, a dispatch communication could be used to determine a vehicle's location or to assign a service call.

16.

Specialized Mobile Radio ("SMR") service refers to wireless mobile radio communications services provided on a commercial basis to businesses and other users, pursuant to Federal Communications Commission ("FCC") regulations at 47 C.F.R., Part 90.

Historically, the majority of SMR users have been users primarily of dispatch service.

17.

"Trunked" mobile radio communications systems use computer control to automatically route users to the first available radio frequency channel when the user pushes the button to talk. Trunking allows more users to share a given set of radio frequencies than does a conventional mobile radio system, and increases the likelihood that any particular user will be able to gain access to a channel when that user needs to transmit a message. Once the radio system has assigned a specific channel for a particular transmission, the customer generally has exclusive and private use of that channel for the duration of the communication. In contrast, a conventional, or untrunked, mobile radio communication system is less efficient because the channel is selected by the user on a first-come, first-served basis, and is akin to a multi-party telephone line in that conversations can be overheard by other persons. A customer of a conventional dispatch system cannot always gain quick access to the system.

18.

Traditional radio communication has utilized analog transmission through which voice or data is applied directly upon a radio signal by causing a variation of signal amplitude (AM) or signal frequency (FM) from a radio transmitter, with the radio

receiver demodulating this variation directly into a voice or data signal. A key trend in radio technology is toward the use of digital transmissions, which involves the conversion of analog input, such as speech, into a digital code (a stream of numbers (digits)). Digital communication allows for the compression of data required to transmit and reproduce human voice, permitting voice transmission over a more narrow channel bandwidth, as well as other enhancements of transmission efficiency and quality.

19.

Enhanced Specialized Mobile Radio ("ESMR") service is a term that has been applied in recent years to digital trunked SMR services providing wide area geographic coverage, employing multiple-base station configurations that permit frequency reuse, and capable of providing cellular-like interconnection with the public switched telephone network as well as two-way radio dispatch communications service. Thus, ESMR refers to wide-area SMR services employing digital radio technologies and highly efficient use of radio spectrum, which provide both radio dispatch service and public telephone interconnection.

20.

In the early 1990s, Motorola introduced an ESMR technology that it has marketed as the Motorola Integrated Radio System, or "MIRS." MIRS is a digital trunked mobile radio communications system that provides wide area coverage and supports a frequency

reuse configuration similar to that used for cellular networks. MIRS technology uses Time Division Multiple Access technology ("TDMA"), a process by which a number of communications may be transmitted simultaneously over one radio frequency channel. This permits more efficient use of the limited number of available frequencies and thereby significantly increases the communications traffic capacity of an SMR system. A Motorola MIRS communication system consists of centralized switching, monitoring and control facilities, radio transceiving towers, transmitters, telecommunications network facilities, associated vehicular and portable mobile user equipment (i.e., mobile radios), control stations, and associated software and equipment. Motorola has marketed and sold its MIRS TDMA technology as providing fully integrated dispatch radio, telephone, paging and data services all in one digital network.

21.

Motorola is a dominant supplier of mobile radio equipment, including the equipment used to provide digital trunked SMR service.

B. The Public Safety Radio Market

22.

"Public Safety Radio" service refers to mobile radio communications service provided to or used by police, fire, and other emergency services users. Historically, Public Safety Radio services have been provided over a patchwork of small systems covering relatively small geographic areas. In the past, most public safety users have owned and operated the systems that they used, but there has been an increasing tendency in recent years for geographically larger units of government to operate area-wide Public Safety Radio systems and provide service to geographically smaller units located therein.

23.

Public Safety Radio service users have special needs, including the need for quick access, high voice quality, security and the ability to communicate data, such as that available from the National Crime Information Center (NCIC).

24.

Motorola markets its digital, trunked "Astro" mobile radio system to the Public Safety Radio market. The Astro technology is older than the MIRS technology, does not use TDMA technology, and does not have other features and capabilities that MIRS has.

25.

Motorola's MIRS technology, as well as other digital trunked SMP technologies, can provide features, functions, and capabilities necessary to serve the Public Safety Radio market.

26.

Beginning in 1989, the Association of Public Safety Communications Officials ("APCO") undertook to go beyond the functional standards that APCO had previously adopted for public safety radio systems, and to adopt voluntary technical standards for Public Safety Radio equipment in order, *inter alia*, to promote the interoperability of equipment from different manufacturers. Motorola actively participated in this process, known as APCO Project 25 ("APCO 25"), as a member of various APCO 25 committees.

27.

Motorola has dominated the APCO 25 process and used the process to provide it with a competitive advantage over its competitors. Exploiting its position on the APCO Project 25 committees, Motorola has influenced the formulation of APCO 25 standards to favor Motorola's existing, off-the-shelf, proprietary Astro system. Although APCO 25 standards purport to be standards designed to insure interoperability of different manufacturers' equipment, upon information and belief, Motorola's Astro system is the only currently available mobile radio system from any

manufacturer that satisfies the presently formulated APCO 25 standards.

28.

Motorola's efforts with respect to APCO 25 standards are and have been designed to insure that, by the time other manufacturers are able to offer systems meeting all APCO Project 25 standards, Motorola will have a secure monopoly position in Public Safety Radio because most Public Safety Radio users (many of whom are under time pressure to replace their systems) will have committed to Motorola network base equipment. Although APCO 25 standards may eventually insure interoperability of mobile equipment from manufacturers who are later to market, Public Safety Radio users who have Motorola base stations will be locked into continued purchases from Motorola because of the enormous cost of changing to a new base equipment manufacturer.

C. *Current Market Trends*

29.

Several circumstances are presently converging to encourage or require users of mobile radio communications systems and Public Safety Radio services to replace their equipment or obtain new wireless communications services. First, most of this equipment uses analog transmission techniques, whereas mobile users have an increasing need for digital radio operations that will provide wide

area coverage, increase system capacity, provide secure communications, and facilitate the transmission of digital data to and from computers. Second, a significant percentage of the equipment now in use in those services both has been fully depreciated and is nearing the end of its useful life from the standpoint of reliability, maintainability and the availability of spare parts. Third, the FCC has proposed to require most private radio and Public Safety Radio users to migrate over the next several years to equipment that uses radio spectrum more efficiently than most equipment in use today.

D. Southern's Decision to Acquire a Specialized Mobile Radio System

30.

In 1992, Southern Services began evaluating the possible replacement of a number of existing mobile radio systems used by its affiliated companies with a single, larger digital trunked wireless communication system which would allow communications between mobile radio units located anywhere within the geographic operating area of its affiliates. Southern Services also evaluated the possibility of using excess capacity on such a system to offer digital trunked SMR services to private companies and to federal, state and local public safety agencies and other agencies of the states of Georgia, Alabama, Mississippi and Florida.

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33.

Motorola's proposal estimated that providing such an ESMR system to Southern would require construction and installation of only 231 tower sites and associated radio transceiving equipment within the specified geographic area. It also represented that such a system could be provided even if approximately 280 tower sites were required.

34.

Motorola's proposal expressly represented its familiarity with Southern's business plans and Motorola's commitment to support a schedule which would enable Southern to be the first to market an ESMR service in the Southeastern United States.

35.

Motorola's proposal assumed and represented that the MIRS system it would provide to Southern would allow 6-to-1 TDMA channel splitting so that six simultaneous communications could be made over each radio frequency channel while maintaining good voice quality, thereby allowing the system to have a high communications traffic capacity level with a limited number of radio frequencies.

36.

Motorola's proposal also expressly represented that the ESMR system that it would provide to Southern could be marketed and sold in the Public Safety Radio market.

37.

In reliance on Motorola's representations regarding the capabilities and features of its MIRS technology and the trunked ESMR system that it could provide to Southern within identified time parameters, Southern Services undertook to purchase and install an ESMR system that would provide mobile radio communications services to its public utility affiliates, and also would allow Southern to compete in providing such services to the public and private sectors, including public safety and other governmental agencies.

38.

In connection therewith, Southern acquired Federal Communications Commission ("FCC") licenses and other corporate and regulatory approvals to construct and operate a mobile radio communications system in various geographic areas covering Georgia, Alabama, Mississippi, and Florida.

E. The Purchase Agreement Between Southern and Motorola

39.

On or about December 30, 1993, Southern Services and Motorola entered into an Enhanced Specialized Mobile Radio System Purchase Agreement (the "Purchase Agreement"). Southern Communications is expressly made a third-party beneficiary of Motorola's obligations under the Purchase Agreement.

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so that Conditional Acceptance of the System by Southern would occur by December 31, 1994. It was contemplated that upon Conditional Acceptance, Southern could begin commercial operation of the System.

43.

In the Purchase Agreement Motorola warranted that the System would allow 6-to-1 TDMA channel splitting so that six simultaneous communications could be made over each radio frequency channel while maintaining clear audio quality, thereby allowing the System to meet the communications traffic capacity requirements specified in the Purchase Agreement.

44.

The Purchase Agreement also required that the System provide "seamless" dispatch service communications throughout the entire designated geographic service area. That is, a user of the System would be able to travel through the entire geographic service area covered by the System and originate or receive dispatch calls to or from any other user within the geographic service area, without regard to the location of the users. This requirement was specifically set forth in Section 1.1.3.1 of Exhibit B1 to the Purchase Agreement, and is referred to in other sections of the Purchase Agreement and in Motorola's proposal.

45.

The Purchase Agreement was based upon Motorola's representation that 231 towers was a reasonable approximation of the number of tower sites required to provide seamless radio coverage through the designated geographic area, subject to minor adjustments to allow for coverage requirements due to variations in geography and topography.

46.

The Purchase Agreement also required that the System include various state-of-the-art features and capabilities that would allow Southern to effectively serve its affiliated utility companies and to compete effectively in the Public Safety Radio market. These features included:

A. Failsoft Local Site Trunking, which would allow a cell site on the System to handle local dispatch traffic even if its link to the rest of the network was lost;

B. Emergency, which would allow a single mobile unit to preemptively take over dispatch communications among an associated group of units;

C. Priority, which would permit assigning priority access to dispatch service to certain mobile or base units;

D. Talkgroup Scan, which would permit a mobile unit continuously to scan for dispatch communications on a number of associated groups of units;

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E. MS Status, which would permit mobile units periodically to transmit a predefined status code to a specified base unit;

F. Software Encryption, which would permit significantly enhanced privacy of dispatch communications;

G. OMC Alarm Reporting to MS via SMS, which would permit the System to send certain alarm signals to mobile units;

H. Test Radio Algorithm, which would provide for continuous monitoring of the operation of control channels at each cell site;

I. Wireless Console Radio Interface, which would permit the use of a mobile, wireless dispatch control station to control dispatch communications among a selected group of mobile units;

J. Fixed Data Radio and Interface, which would provide a wireless interface to a standard computer interface at a fixed location;

K. EBTS Frequency Extension to 824 MHZ, which would permit the System to operate on radio frequencies assigned by the FCC for the exclusive use of Public Safety Radio;

L. MS Talk Around, which would allow mobile units to communicate among each other within a local area even if they lost radio coverage from the System altogether; and

M. Access Time for dispatch communications averaging 500 milliseconds or less.

These features were designed to assure that the dispatch components of the System would support the emergency operational requirements of public utilities and public safety agencies.

47.

Under the Purchase Agreement, certain of the features referenced in the preceding paragraph were to be provided and tested, along with the basic System, by December 31, 1994. Other of these features, designated as the "Advanced Features," were to be provided by Motorola to Southern by March 31, 1995. The Advanced Features were: Emergency, Priority, Talk Group Scan, MS Status, and Failsoft Local Site Trunking. Obtaining the Advanced Features in a timely manner was essential to support necessary emergency operational requirements of its public utility affiliates and of public safety agencies and to allow Southern to effectively compete in the Public Safety Radio market.

F. *Motorola's Fraud, Breaches of the Purchase Agreement, and Other Wrongful Conduct*

48.

Unknown to Southern at the time it entered the Purchase Agreement and for some time thereafter, Motorola's MIRS technology had and has certain inherent limitations such that Motorola was incapable of providing an ESMR system as required by the Purchase

Agreement. Motorola concealed and withheld from Southern material information and misrepresented various facts relating to the capabilities and limitations of its MIRS technology and of the System both before and after the Purchase Agreement was signed, so as to induce Southern to enter into the Purchase Agreement and, thereafter, to induce Southern to continue performance under the Purchase Agreement.

49.

Moreover, since the Purchase Agreement was signed, Motorola has engaged in a course of conduct in which it failed to develop or provide significant features, capabilities and reliability of the System required by the Purchase Agreement, misrepresented and concealed facts regarding the System and the extent of Motorola's performance under the Purchase Agreement, made changes to the System that adversely affected performance of the System without fully advising Southern of the effects thereof, intentionally delayed its performance under the Purchase Agreement, and interfered with and delayed performance of Southern's obligations under the Purchase Agreement.

50.

For example, immediately upon execution of the Purchase Agreement, Southern commenced with its obligation to design a radio frequency coverage plan for the System, which, among other things, would identify the exact number of radio transceiving tower sites

necessary to serve the System and allow decisions as to location of towers. Southern hired TSI, an engineering firm recommended by Motorola, to prepare that plan.

51.

In early February 1994, TSI issued a radio frequency coverage plan which indicated that the System would require at least 280 tower sites to cover a geographic service area significantly smaller than that originally proposed by Motorola as being capable of being serviced by 231 tower sites.

52.

At that time, and for approximately three months thereafter, Motorola vehemently denied that the System would require 280 tower sites and insisted that TSI's plan and underlying calculations were defective, faulty, and incorrect. Motorola's denials and objections were made without any legitimate factual basis and were intended to conceal defects in Motorola's trunked SMR technology that prevented it from providing Southern with the System required by the Purchase Agreement if the System had more than approximately 235 sites.

53.

Because of Motorola's objections and the resulting need for further analysis, debate and discussion between Motorola, Southern and TSI, Southern was unable to establish a radio frequency coverage plan for the System until May 1994. In May, Motorola

finally conceded that TSI was correct and that it would take approximately 280 tower sites to provide radio coverage through the System.

54.

This delay in development of the radio frequency coverage plan significantly delayed Southern's efforts to acquire land for and construct towers on the tower sites. In addition, the results of this plan required Southern to construct tower sites and purchase equipment from Motorola for approximately 280 tower sites, rather than the 231 upon which the Purchase Agreement was based, at a significant additional cost to Southern and an additional delay to completion of the System.

55.

At present, an ESMR system using MIRS technology is capable of seamless dispatch service throughout a geographic area only if all dispatch calls are processed by a single Dispatch Application Processor ("DAP"). A DAP is responsible for the overall coordination and control of the dispatch communication services. Both Motorola's proposal to Southern and the Purchase Agreement represented that the System would be operated with a single DAP.

56.

In the spring of 1994, Motorola disclosed to Southern, for the first time, that Motorola's DAP had a design limitation that would not allow a single DAP to serve an ESMR system that had more than

approximately 235 tower sites. Motorola had concealed this information from Southern both prior to the Purchase Agreement and during the early course of performance under the Purchase Agreement. In fact, in its proposal in response to the RFQ, Motorola had falsely represented that Southern's System could be provided with a single DAP even if it had approximately 280 tower sites.

57.

The need for approximately 280 tower sites and the inability of the DAP to serve more than approximately 235 tower sites created serious adverse consequences for the System. If it was necessary to use two DAPs, the System would not allow for seamless communications in the entire geographic service area as required by the Purchase Agreement. Instead, mobile radio users located near tower sites connected to one DAP would be unable to communicate to mobile radio users located near tower sites that were connected to the other DAP.

58.

Motorola provided Southern with two options for addressing the problems resulting from the limitations in the capacity of the DAP. First, Motorola advised that it could try to develop a new DAP that would have the capability to handle 300 or more tower sites. However, Motorola advised that there would be substantial delays in developing such a DAP and installing it in the System, which would

impair Southern's marketing plans. Thus, Motorola recommended that Southern accept a second alternative, which was for Motorola to provide a two-DAP system and to develop, at some time in the future, a "gateway" link that would allow Southern to provide seamless communications for only approximately 20 percent of the System users.

59.

Due to other inherent limitations in Motorola's MIRS technology that had been concealed from Southern, the System's need for approximately 280 tower sites has had other adverse impacts upon the System. For example, Motorola's Operations Maintenance Center ("OMC"), which provides important functions for the System in the area of security and other day-to-day management features, also has limitations such that a single OMC cannot adequately service a system with more than approximately 235 tower sites.

60.

As another example of Motorola's concealment of material information and breaches of its obligations under the Purchase Agreement, Motorola has delayed development of numerous features of the System required by the Purchase Agreement, including the Advanced Features.

61.

Motorola's current software and equipment development schedule reflects that many of the features of the System required under the

Purchase Agreement, including many of the features described in paragraph 46 of this Complaint and all of the Advanced Features, will not be developed or ready for implementation until much later than they were supposed to be provided to Southern under the Purchase Agreement.

62.

As another example of Motorola's wrongful conduct, in the fall of 1994, Motorola developed a purported Acceptance Test Plan that included procedures for testing certain components of the System, but did not include system tests required to verify that the System's components functioned correctly together and that the System performed properly as a whole. Such system tests are required by Section 9 and Exhibit C of the Purchase Agreement.

63.

Moreover, in late 1994 and early 1995 Motorola repeatedly represented to Southern that it had properly and substantially performed its contractual obligations to provide equipment, software and services under the Purchase Agreement, and that the basic System was installed and operational pursuant to the Agreement and was ready for acceptance tests leading to Conditional Acceptance of the System.

64.

In fact, Southern learned that the System was not complete or reliable in many material respects, that Motorola had not provided

many of the System's basic features, and that the System was not ready for acceptance testing or Conditional Acceptance.

65.

For example, Motorola's MIRS technology has technical problems such that Motorola cannot provide 6-to-1 TDMA channel splitting while still meeting its contract obligations to provide clear audio quality and access time for dispatch communications averaging 500 milliseconds or less. Motorola has indicated that it could improve voice quality and access time by reducing channel splitting to a 3-to-1 or 4-to-1 ratio, but this would reduce the number of communications that can be made simultaneously on each radio frequency channel, thereby causing the System to be unable to meet the communications traffic capacity requirements specified in the Purchase Agreement.

66.

In addition, certain System equipment has had substantial reliability problems. For example, Southern has experienced problems with communications being interrupted and cut off mid-stream due to defects with Motorola-supplied equipment at tower sites.

67.

Due to Motorola's failures to perform, including its failure to provide System components, features, capabilities and reliability required by the Purchase Agreement, the System had not